SERVICE MANUAL

A-K22

STEREO INTEGRATED AMPLIFIER



Safety Precaution

- The design of this product contains special hardware, many circuits and components specially for safety purposes.
 - For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- Alterations of the design or circuitry of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- 3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. Electrical components having such features are identified by shading on the schematics and by (△) on the parts list in Service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list in Service manual may create shock, fire, or other hazards.
- 4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and/or the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard.
 - When service is required, the original lead routing and dress should be observed, and they should be confirmed to be returned to normal, after re-assembling.

- Leakage current check (Safety for electrical shock hazard)
 - After re-assembling the product, always perform an isolation check on the exposed metal parts of the Products (antenna terminals, knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

- Plug the AC line cord directly into the AC outlet.
 Using a "Leakage Current Tester", measure the
 leakage current from each exposed metal part of the
 cabinet, particularly any exposed metal part having a
 return path to the chassis, to a known good earth
 ground (water pipe, etc.). Any leakage current must
 not exceed 0.5 mA AC (r.m.s.).
- Alternate check method.

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1500 Ω 10 W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each mesurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).

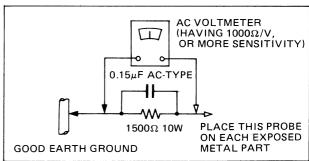


Fig. 1

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1. Specifications

Output Power	: 40 watts per channel, min.	Tone Controls	
•	RMS, both channels driven,	BASS	: 100 Hz ± 8 dB
	into 8 ohms from 40 Hz to	TREBLE	: 10 kHz ± 8 dB
	20 kHz, with no more than	Input Sensitivity/	
	0.5 % total hormonic distor-	Impedance	
	tion	PHONO	: 2.5 mV/47 kohms

more than 0.7% total hormonic Phono Equalizer Deviation: ± 1.0 dB (40 Hz - 20 kHz) distortion Phono Overload : 100 mV (1 kHz)

38 watts per channel, min. Signal to Noise Ratio

RMS, both channels driven, PHONO : 67 dB (new IHF) 70 dB (IHF) into 8 ohms at 1 kHz with TUNER VIDEO/

no more than 0.01 % total AUX, TAPE : 75 dB (new IHF) 90 d3 (IHF) harmonic distortion Loudness Control : +5 dB at 100 Hz.

Total Harmonic Distortion: 0.5 % at Rated output, from (Volume Control at +3.5 dB at 10 kHz

40 Hz to 20 kHz, 8 ohms —30 dB position)

0.01 % at Rated output at Dimensions (mm/inch) : 77(H) x 435(W) x 299(D) mm

1 kHz, 8 ohms (3-1/16" x 17-3/16" x | 1-13/16")

Power Band Width : 10 Hz – 30 kHz (IHF, both

channels driven, 8 ohms, 0.08 % Weight (kg/lbs) : 4.3 kg (9.7 lbs) THD)

Frequency Response : 10 Hz – 30 kHz

+1 dB, -3 dB (8 ohms)

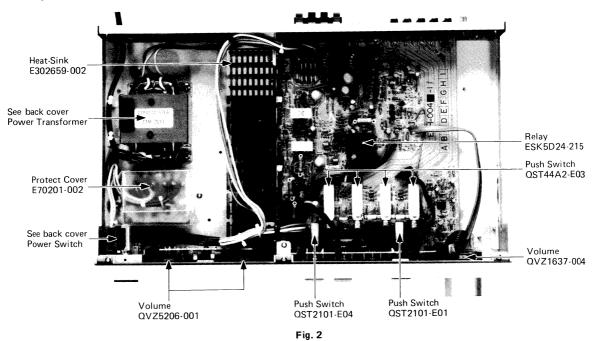
Power Specifications

Areas	Line Voltage & Frequency	Power Consumption
U.S.A & Canada	AC 120 V, 60 Hz	160 watts, 200 VA
Europe	AC 220 V ∼, 50 Hz	280 watts
U.K. & Australia	AC 240 V ∼, 50 Hz	280 watts
Other Countries	AC 110/120/220/240 V \sim selectable, 50/60 Hz	320 watts

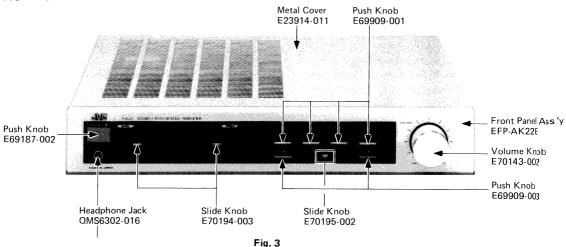
Design and specifications subject to change with out notice.

2. Main Parts Locations

2-(1) Top View



2-(2) Front View



2-(3) Rear View

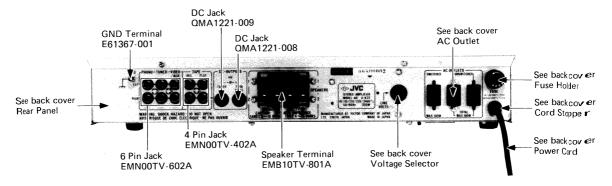


Fig. 4

3. Exploded View and Part Numbers

4. Exploded View and Part Numbers

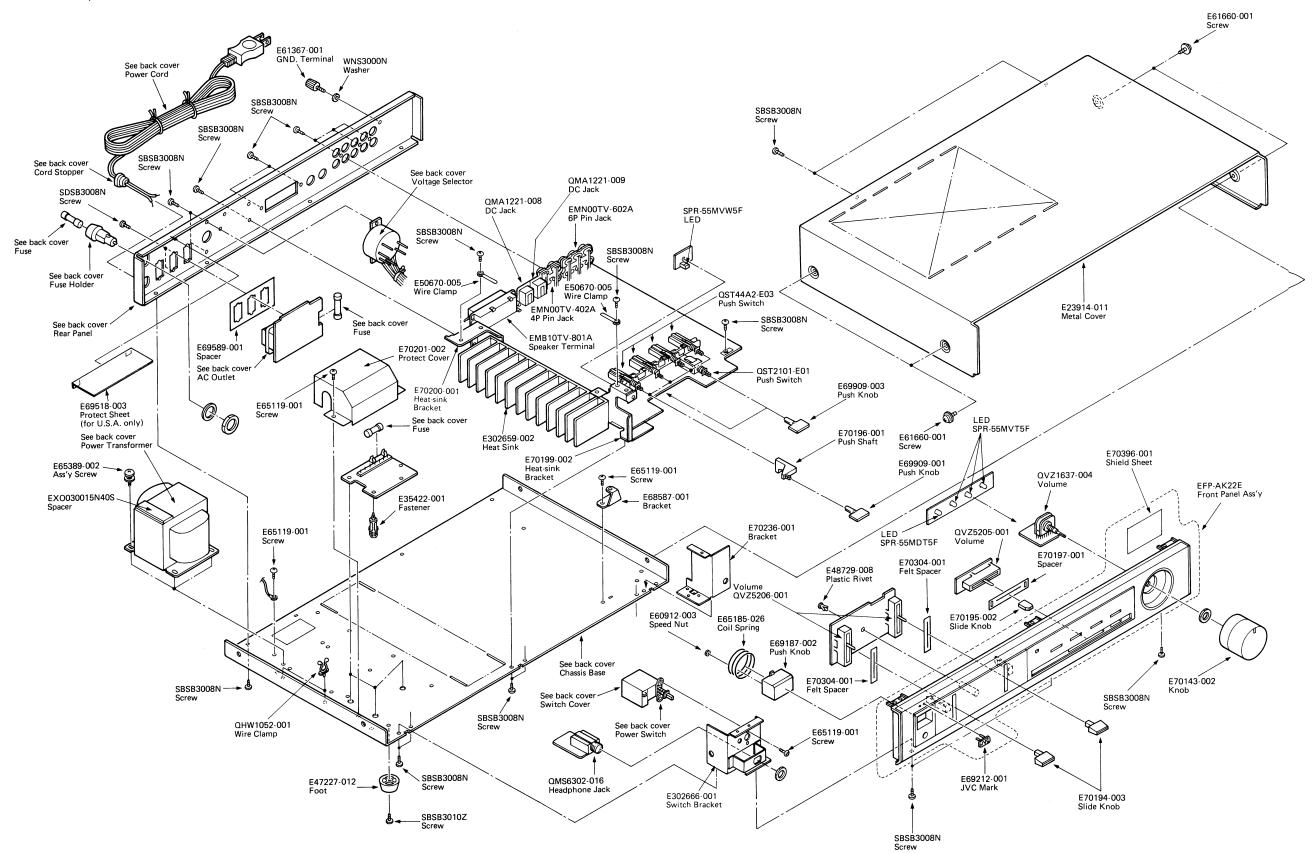


Fig. 5

4. Removal Procedures

NOTE: Also refer to Fig. 5.

4-(1) Matel Cover Section

- 1. Remove the six screws (provided on the sides and back) which secure the metal cover.
- 2. Draw off the metal cover backwards carefully.

4-(2) Front Panel Section

- 1. Remove the metal cover (Refer to Section 4-(1) above).
- Remove the five screws (provided on the upper/lower sides) which secure the front panel.
- 3. Pull out the volume knob and remove the nut.
- 4. Pull out the BASS/TREBLE knobs and detach the front panel from the chassis.
- 5. Pull out the plastic rivets which secure the TONE P.C. Board.
- 6. Detach the BALANCE P.C. Board from the front panel catches

4-(3) Rear Panel Section

- 1. Remove the metal cover.
- 2. Remove the eight screws which secure the rear panel from its back side and the four screws which also secure the rear panel from its bottom.

4-(4) Checking and Removing the Main P.C. Board

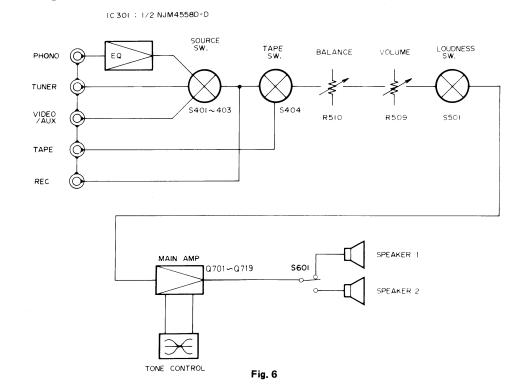
Removal of the main P.C. Board is not necessary when conducting normal parts replacement or a pattern check. Remove the eight screws which secure the chassis base at the bottom of this unit and a screw on the right-hand, front side which secures the main P.C. Board. Upon detaching the chassis base from its catches, the pattern surface becomes visible.

4-(5) Power Transistor Section

- 1. Remove the metal cover and the chassis base (Refer to Section 4-(4) above).
- 2. Take soldering off from the cement resistors (R737 and R738) and remove these resistors.
- 3. Take soldering off from the power transistor.
- 4. Remove the screws which secure the power transistor.

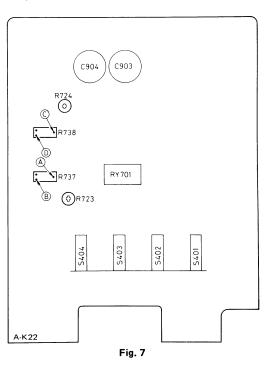
NOTE: When remounting the power transistor, take in reverse procedure of above.

5. Block Diagram



6. Power Amplifier Idling Current Adjustment Procedures

Adjustment Location on ENH-004 Main Amp. P.C. Board Ass'y



- 1. Before turning on the power, turn the semi-fixed resistors < R723 for L channel and R724 for R channel > of the power amplifier circuit board fully counterclockwise.
- 2. Adjust the semi-fixed resistors (R723 and R724) so that the voltage at the following test points of the power amplifier circuit board is within a range of 1 mV \sim 3 mV after the power is turned on.

L channel: Measure the voltage between test point B (emitter of Q717) and output at the test point A.

R channel: Measure the voltage between test point \bigcirc (emitter of Q718) and output at the test point \bigcirc .

3. Readjust resistors R723 and R724 about 5 minutes after the power is turned on (the heat sink temperature must be sufficiently high) so that the voltage at the test points becomes 10 mV.

Confirm that the voltage does not vary when the heat sink temperature increases further.

7. Printed Circuit Board Ass'y and Parts List

Note: ENH-004 varies according to the areas employed. See note (1) when placing an order.

Each Individual P.C. Board Location

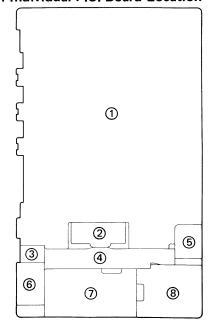


Fig. 8

1	ENH-004 □ -1	: Main P.C. Board Ass'y
2	ENH-004-2	: Balance P.C. Board Ass'y
3	ENH-004-3	: Power Indicator P.C. Board Ass'y
4	ENH-004-4	: Source Indicator P.C. Board Ass'y
(5)	ENH-004-5	: Volume P.C. Board Ass'y
6	ENH-004-6	: Headphone P.C. Board Ass'y
\bigcirc	ENH-004-7	: Tone P.C. Board Ass'y
8	ENH-004-8	: Fuse P.C. Board Ass'y

te (1)	Designated Areas	P.C. Board Ass'y
	U.S.A. & Canada	ENH-004 🗚
	Europe & Australia	ENH-004B
	U.K.	ENH-004 CBS
	West Germany	ENH-004 E
	U.S. Military Market	ENH-004 D
	& Other Countries	LIVIT-004

Note (2) The symbols (赤、黒、白...etc.) on P.C. Board surface are factory process only.

A-K22 No. 2662 A-K22 No. 2662 No

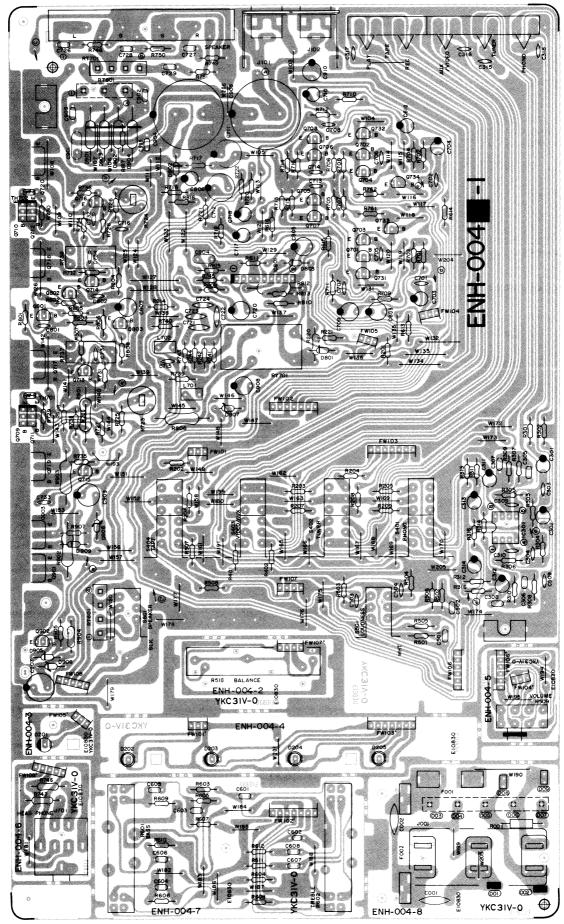


Fig. 9

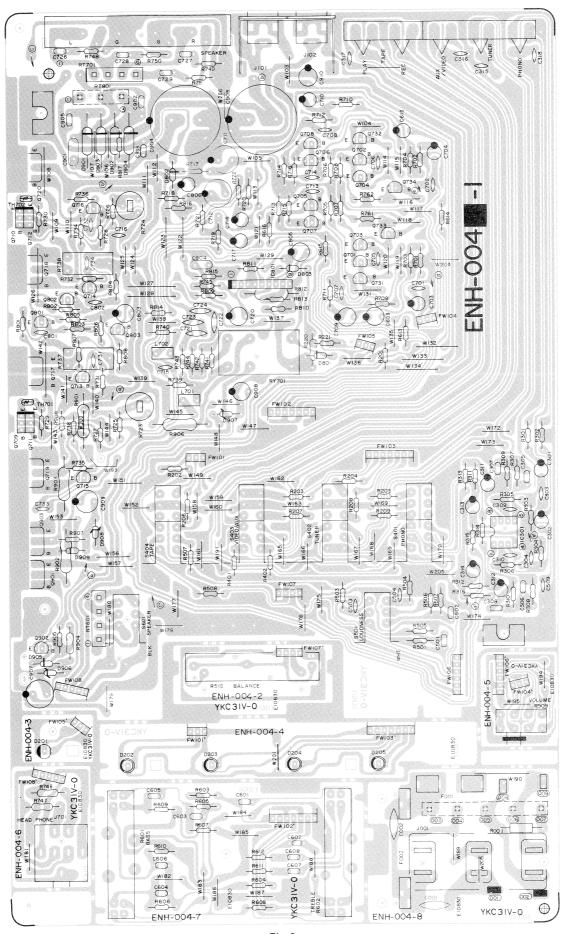


Fig. 9

Transistors

Item No.	Part Number	Rating	De	scription
				Maker
Q701	2SC2240(A,B)		Silicon	Toshiba
Q702	2SC2240(A,B)		"	"
Q703	2SC2240(A,B)		"	"
Q704	2SC2240(A,B)		"	"
Q705	2SA872AV(E)		"	Hitachi
Q706	2SA872AV(E)		"	"
Q707	2SA949(Y)		"	Toshiba
Q708	2SA949(Y)		"	"
Q709	2SD636(Q,R)		"	Matsushita
Q710	2SD636(Q,R)		"	"
Q713	2SC2235(O,Y)		"	Toshiba
Q714	2SC2235(O,Y)		"	"
Q715	2SA965(O,Y)		"	"
Q716	2SA965(O,Y)		"	"
Q717	2SD718(O,Y)		"	,,
Q718	2SD718(O,Y)		"	"
Q719	2SB688(O,Y)		"	,,
Q720	2SB688(O,Y)		"	"
Q731	2SA733A(P,Q)		"	NEC
Q732	2SA733A(P,Q)		"	"
Q733	2SA733A(P,Q)		"	"
Q734	2SA733A(P,Q)		"	"
Q801	2SC1775AV(E,F)		"	Hitachi
Q802	2SC1775AV(E,F)		"	"
Q803	2SA872AV(E)		"	"
Q901	2SD1265A(P,Q)		"	Matsushita
Q902	2SD438(E,F)		"	Sanyo
Q903	2SD1265A(P,Q)		"	Matsushita

Integrated Circuits

Item No.	Part Number	Rating	Description
			Maker
IC301	NJM4558D-D		Dainichi
IC801	TA7317P		Toshiba

Diodes

Item No.	Part Number	Rating	De	scription
				Maker
D201	SPR-55MVW5F		L.E.D.	Rohm
D202	SPR-55MDT5F		"	"
D203	SPR-55MVT5F		"	"
D204	SPR-55MVT5F		"	"
D205	SPR-55MVT5F	'	"	"
D801	2 \$2473		Silicon	"
D802	1 S2473		"	"
D803	1 S2473		"	"
D901	S3V20F		"	Shindengen
D902	S3V20F		"	" "
D903	S3V20F		"	"
D904	S3V20F		"	"
D905	1 S2473		"	Rohm
D906	RD15EB3	!	"	NEC
D907	RD15EB3		"	"
D908	RD15EB3		"	"
D909	1 S2473		"	Rohm
D920	1 S2076-31		"	Hitachi
D921	1 S2076-31		"	"

Coils

COIIS	T-1	····	
Item No.	Part Number	Rating	Description
L701	Y00087-002		Coil
L702	Y00087-002		"

Capacitors

Capacitors	5			
Item No.	Part Number	Ratir	ng	Description
C001	QCZ9019-472	4700pF	400V	Ceramic 🛕
C002	QCZ9019-472	47.5	501/	_ " _ <u>A</u>
C301 C302	QET61HM-475	4.7μF	50V	Electrolytic
C302	QET61HM-475 QCS31HJ-471	470pF	,,	Ceramic
		470pi	 ,,	Ceramic
C304 C305	QCS31HJ-471 QFM31HJ-182	1800pF	,,	
C306	QFM31HJ-182	18000		Mylar "
C307	QFM31HJ-682	6800pF	,,	,,
C308	QFM31HJ-682	"	"	"
C309	QCS31HJ-101	100pF	"	Ceramic
C310	QCS31HJ-101	"	"	"
C311	QET61HM-105	1μF	"	Electrolytic
C312	QET61HM-105	"	"	"
C313	QET61EM-226	22μF	25V	"
C314	QET61EM-226	"	"	"
C315	QCF31HP-223	0.022µF	50V	Ceramic
C316	QCF31HP-223	"	"	"
C317	QCF31HP-223	" "	",	"
C318	QCF31HP-223		···	
C501	QFM31HJ-273	0.027µF	",	Mylar
C502	QFM31HJ-273	200-5	",	
C503	QCS31HJ-271	220pF	,,	Ceramic
C504 C601	QCS31HJ-271 QFM31HJ-182	1900nE	,,	Marley
C602	QFM31HJ-182	1800pF	,,	Mylar
C603	QFM31HJ-333	0.033μF	,,	,,,
C604	QFM31HJ-333	υ.υ.ς σμε	,,	"
C605	QEN61HM-224	0.22μF	,,	N.P. Electrolytic
C606	QEN61HM-224	0.22.2.	"	,,
C607	QFM31HJ-183	0.018μF	"	Mylar
C608	QFM31HJ-183	,,	,,	"
C609	QET61HM-475	4.7μF	"	Electrolytic
C610	QET61HM-475	"	"	"
C701	QCS31HJ-680	68pF	"	Ceramic
C702	QCS31HJ-680	"	"	"
C703	QET61HM-225	2.2μF	"	Electrolytic
C704	QET61HM-225	"	,,	".
C705	QCS31HJ-221	220pF	;,	Ceramic
C706 C707	QCS31HJ-221 QCS31HJ-100		"	"
C707	QCS31HJ-100	10pF	,,	"
C709	QET61AM-107	100μF	10V	Electrol ytic
C710	QET61AM-107	100#1	10,0	"
C711	QET51HM-227	220μF	50V	,,
C712	QET51HM-107	100μF	"	"
C713	QCS31HJ-390	39pF	"	Ceramic
C714	QCS31HJ-390	,,	"	"
C715	QCF31HP-103	0.01µF	"	"
C716	QCF31HP-103	"	"	"
C717	QET61HM-226	22μF	"	Electrol ytic
C718	QET61HM-226	"	"	n n
C720	QET61AM-107	100μF	10V	n .
C721	QFM31HJ-473	0.047μF	50V	Mylar
C722	QFM31HJ-473	"	,,	,,
C723	QFM31HJ-473	",	",	",
C724	QFM31HJ-473		",	"
C726 C727	QFM31HJ-103 QFM31HJ-103	0.01μF	,,	,,,
C727	QFM31HJ-103	"	,,	"
C729	QFM31HJ-103	"	"	
0/29	QCF31HJ-220	22pF	,,	Ceramic
C731	-0101110-220	22bc	,,	Ceramic
C731 C732	QCF31HJ-220	"		
C732	QCF31HJ-220 QCF31HJ-220	"	,,	"
	QCF31HJ-220 QCF31HJ-220 QCF31HJ-220		"	"
C732 C733	QCF31HJ-220	"		

 Δ : Safety parts

Capacitors

Jupuoitoio				· · · · · · · · · · · · · · · · · · ·
Item No.	Part Number	Ratin	g	Description
C803	QET61HM-226	22μF	50V	Electrolytic
C804	QFM31HJ-103	0.01µF	"	Mylar
C805	QET61CM-226	22μF	16V	Electrolytic
C806	QET61HM-105	1μF	50V	"
C901	QFM82AK-103	0.01µF	100V	Mylar
C902	QFM82AK-103	"	"	"
C903	QEZ0061-478	4700μF	50V	Electrolytic
C904	QEZ0061-478	"	"	"
C907	QET61EM-107	100μF	25V	"
C908	QET61EM-107	"	"	"
C909	QET61EM-107	"	"	"
C920	QCF31HP-103	0.01µF	50V	Ceramic

Resistors

Item No.	Part Number Rating		Description	
R001	QRC128K-275EM	$2.7M\Omega$	1/2W	Composition △
R201	QRD141J-821S	820Ω	1/4W	Carbon
R202	QRD141J-821S	"	"	"
R203	QRD141J-821S	"	"	"
R204	QRD141J-821S	"	"	"
R205	QRD141J-821S	"	"	"
R206	QRD141J-821S	,,	"	"
R207	QRD141J-821S	,,	"	"
R208	QRD141J-821S	"	"	"
R209	QRD141J-821S	••	,,	"
R220	QRG012J-392A	3.9kΩ	1W	O.M. Film △
R221	QRD141J-821S	820Ω	1/4W	Carbon
R301	QRD141J-222S	$2.2k\Omega$	"	"
R302	QRD141J-222S		,,	"
R303	QRD141J-473S	$47k\Omega$	"	"
R304	QRD141J-473S	"	"	"
R305	QRD141J-681S	680Ω	"	"
R306	QRD141J-681S	",	"	"
R307	QRD141J-393S	$39k\Omega$	"	"
R308	QRD141J-393S	,,	"	"
R309	QRD141J-474S	470kΩ	"	"
R310	QRD141J-474S	"	"	"
R311	QRD141J-104S	100kΩ	"	"
R312	QRD141J-104S	",	"	"
R313	QRD141J-471S	470Ω	"	"
R314	QRD141J-471S	"	"	"
R315	QRD1413-4713	220Ω	"	Unf. Carbon △
R316	QRD145J-221S	22012	"	" 🐧
R401	QRD141J-332S	3,3kΩ	,,	Carbon
R402	QRD141J-332S	","	,,	"
R501	QRD141J-683S	68kΩ	"	"
R502	QRD141J-683S	","	,,	"
R503	QRD141J-224S	220kΩ	"	"
R504	QRD141J-224S	220832	,,	"
R505	QRD1413-2243	22kΩ	,,	"
R506	QRD141J-223S	"		"
R506	QRD141J-2238	4,7kΩ	,,	"
R508	QRD141J-472S	4./ 2.2	,,	"
R509	QVZ1637-004	250kΩ(I	۱ ۱	Variable (Volume)
R510	QVZ5205-001		N)	" (Balance)
R601	QVZ5205-001	100kΩ(" (Bass)
R602	QVZ5206-001		'')	" (Treble)
	QRD141J-123S	12kΩ	/ 1 1/4 W	Carbon
R603 R604	QRD141J-123S	12836	/4 4 4	Carbon "
R605	QRD141J-1235	82kΩ	,,,	,,
		82K77	 ,,	"
R606	QRD141J-823S		,,	,,
R607	QRD141J-182S	1.8kΩ	,,	,,
R608	QRD141J-182S	,,	1	
R609	QRD141J-182S	, ,,	"	, ,,

 Δ : Safety parts

Item No.	Part Number	Rating	q	Desctiption
R611	QRD141J-561S	560Ω	1/4W	Carbon
R612	QRD141J-561S	"	"	"
R613	QRD141J-562S	5.6 k Ω	"	",
R614	QRD141J-562S	4710	",	"
R615	QRD141J-472S	4.7kΩ	,,	
R616	QRD141J-472S		,,	"
R701 R702	QRD141J-222S QRD141J-222S	2.2kΩ	,,	"
R702	QRD1413-2223	100kΩ	"	"
R704	QRD141J-104S	"	"	"
R705	See page 10	100Ω	"	Unf. Carbon∆
R706	See page 10	"	"	" Δ
R707	QRD141J-822S	8.2kΩ	"	Carbon
R708	QRD141J-822S	"	,,	",
R709	QRD141J-681S	680Ω	-,,	
R710	QRD141J-681S	100kΩ	,,	,,
R711 R712	QRD141J-104S QRD141J-104S	100822	"	"
R712	QRD141J-272S	2.7kΩ	"	" "
R714	QRD141J-272S	"	"	"
R715	QRD149J-330S	33Ω	"	Unf. Carbon △
R716	QRD149J-330S	"	"	" <u>^</u>
R717	QRD149J-181S	180Ω	"	/ <u>^</u>
R718	QRD149J-221S	220Ω	",	Δ
R719	QRD141J-472S	4.7kΩ	,,	Carbon
R720	QRD141J-472S		,,	,,
R721	QRD141J-272S QRD141J-272S	2.7kΩ	,,	,,
R722 R723	QVZ3501-222	2.2kΩ		Variable (Semi-fix
R724	QVZ3501-222	"		(")
R725	QRD141J-821S	820Ω	1/4W	Carbon
R726	QRD141J-821S	"	"	"
R727	QRD141J-102S	1kΩ	"	"
R728	QRD141J-102S	"	",	
R731	QRD145J-100S	10Ω	,,	Unf. Carbon △
R732	QRD145J-100S		,,	, A , A
R733 R734	QRD145J-271S QRD145J-271S	270Ω	,,	, 🗡
R734	QRD145J-2713	10Ω	,,	, <u>\times</u>
R736	QRD145J-100S	","		· A
R737	ERF032K-R47	0.47Ω	3W	Cement A
R738	ERF032K-R47	"	"	"
R739	QRD145J-330S	33Ω	1/4W	Unf. Carbon 🛆
R740	QRD145J-330S	"	"	, 🔼
R741	QRD141J-104S	100kΩ	"	Carbon
R742	QRD141J-100S		,,	Unf. Car bon △
R743 R744	QRD145J-100S QRD145J-100S	10Ω	,,	
R745	QRD141J-104S	100kΩ	"	Carbon
R746	QRD129J-221S	220Ω	1/2W	Unf. Car bon △
R747	QRD129J-221S	"	"	Δ
R748	QRZ0052-100	10Ω	1/4W	Fusibe 🕰
R749	QRZ0052-100	\ ''	",	" <i></i>
R750	QRZ0052-100	",	",	" 🔆
R751	QRZ0052-100		,,	11-f 2 1-00 A
R761	QRD145J-101S QRD145J-101S	100Ω	,,	Unf. car bon 🛆
R762 R801	QRD145J-1018	2.2kΩ	,,	Carbin
R801	QRD141J-222S	2.2832	"	Car b(II
R803	QRD141J-102S	1kΩ	"	"
R804	QRD141J-102S	"		
	QRD141J-123S	12kΩ	"	n
R805	Q11D1713 1200			
R805 R806	QRD141J-123S	"	"	**
			"	"

 $\underline{\Lambda}\,$: Safety parts

Resistor

10313101				
Item No.	Part Number	Rating		Description
R809	QRD141J-563S	56kΩ	1/4W	Carbon
R810	QRD141J-183S	18kΩ	"	"
R811	QRD141J-683S	68kΩ	"	"
R812	See below	560Ω	2W	O.M. Film △
R813	QRD141J-224S	220kΩ	1/4W	Carbon
R814	QRD141J-123S	12kΩ	"	"
R815	QRD141J-223S	56kΩ	"	"
R816	QRD141J-123S	12kΩ	"	"
R817	QRD145J-123S	"	"	Unf. Carbon △
R901	See below	22Ω	3W	O.M. Film 🛕
R902	See below	"	"	" A
R903	QRD145J-8R2S	8.2Ω	14W	Unf. Carbon A
R904	QRD125J-272S	2.7kΩ	1/2W	<i>"</i>
R905	See below	100Ω	1/4W	Fusible 🛆
R906	QRG027J-152	$1.5k\Omega$	2W	O.M. Film 🛆
R907	QRD129J-272S	2.7kΩ	½W	Unf. Carbon △
R908	QRD145J-8R2S	8.2Ω	1/4W	" ▲

Others

Item No.	Part Number	Rating	Description
	E10830-202		Circuit Board
	E10830-202BS		"
EMN00TV-402A			Pin Jack Ass'y
	EMN00TV-602A		"
	EMB10TV-801A		Speaker Terminal
	E70199-002		Heat Sink Bracket
	E70200-001		"
	SBSB3012Z		Tapping Screw
	E302659-002		Heat Sink
	E65654-001		Spacer
	E65396-001		Earth Plate
	E70230-001		Volume Plate
F001	EMG7331-001		Fuse Clip <u>∧</u>
F002	E03675-004		″ ∆
J001	QMC0637-004		AC Socket △
J101	QMA1221-008		DC Terminal A
J102	QMA1221-009		<i>"</i>
J701	QMS6302-016		Headphone Jack
S401 QST44A2-E03			Push Switch
			(Source Select)
S501	QST2101-E01		Push Switch
			(Loudness)
S601	QST2101-E04		Push Switch
			(Speaker Select)
RY701	ESK5D24-215		Relay
TH701	SDT250		Thermistor
TH702	SDT250		11

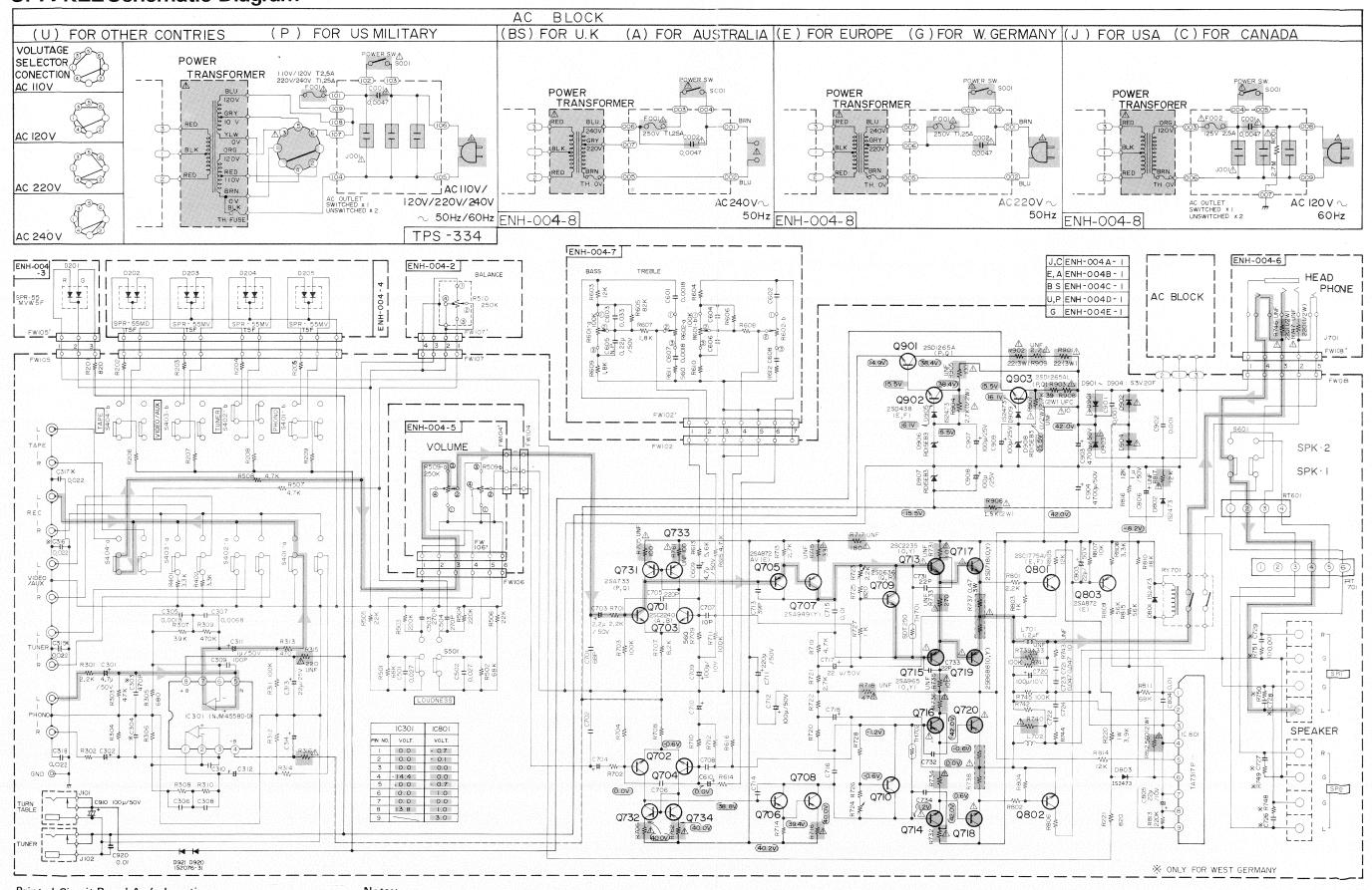
∆ : Safety parts

Specified Numbers in ENH-004 for Designated Areas

Item No.	Description	U.S.A. & Canada	Australia	Europe	U.K.	West Germany	U.S. Military Mark et & Other Countries
_	Circuit Board	E10830-202	E10830-202	E10830-202	E10830-202BS	E10830-202	E10830-202
C303,304	Ceramic Capacitor	_	_	_	_	QCS31HJ-471	_
C315~317	" "	_	_	_	_	QCF31HP-223	_
C726~729	Mylar Capacitor	_	_	_	_	QFM31HJ-103	_
R001	Composition Resistor 🛆	QRC128K-275EM	_	_	_	_	_
R705,706	Carbon Resistor	QRD145J-101S	QRD141J-182S	QRD141J-182S	QRD141J-182S	QRD141J-182S	QRD 141J-182S
R748~751	Fusible Resistor 🛆	_	_	_	_	QRZ0052-100	_
R761,762	UNF Carbon Resistor	QRD145J-101S	_	_	_	_	_
R812	O.M. Film Resistor ⚠	QRG027J-561	QRG026J-561	QRG026J-561	QRG026J-561	QRG026J-561	QRG © 27J-561
R901,902	″ ″ ∆	QRG032J-220	QRG036J-220	QRG036J-220	QRG036J-220	QRG036J-220	QRG @36J-220
R905	Carbon or Fusible <u></u>	QRG145J-101S	QRZ0052-101	QRZ0052-101	QRZ0052-101	QRZ0052-101	QRD 145J-101S
_	Fuse Clip (F001)	_	EMG7331-001	EMG7331-001	EMG7331-001	EMG7331-001	_
-	" (F002)	E03675-004	_	_	_	_	_

△ : Safety parts

8. A-K22 Schematic Diagram



Printed Circuit Board Ass'y Location

P.C. Board Ass'y	Description	Page	
ENH-004	P.C. Board Ass'y	6	

Notes:

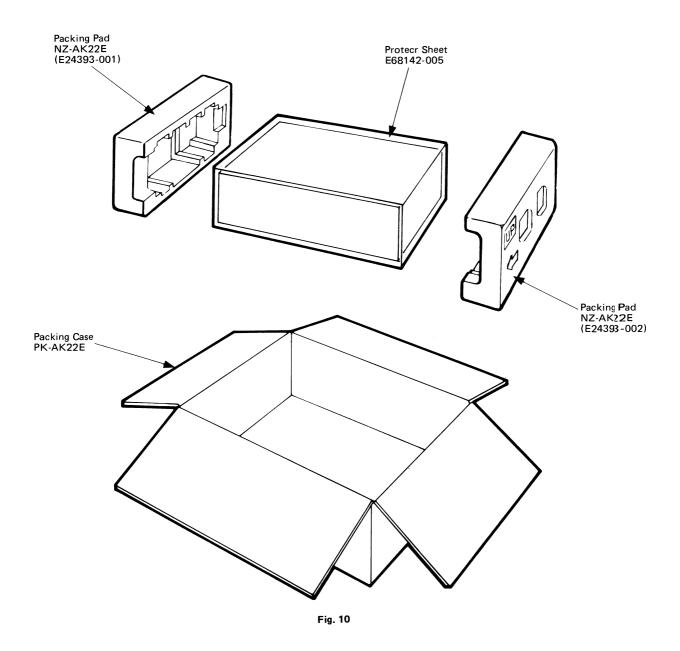
1. When replacing the parts in the darkened area and those marked with Δ , be sure to use the designated parts to ensure safety.

-11-

- 2. indicates signal path.
- . indicates positive B power supply.

- 4. 3.0 shows voltage values at no signal.
- This is the standard circuit diagram.
 The design and contents are subject to change without notice.

9. Packing Materials and Part Numbers



10. Accessories List

30580-1106B	Instruction Deals (for I.I.K. E20E00 110CDDC)	
	Instruction Book (for U.K., E30580-1106BBS)	1
ee back cover	Warranty Card	1
41202-2	Envelope for Instruction Book & Warranty Card	1
ee back cover	Service Information Card	1
ee back cover	Fuses (Within)	1
64204-073	Envelope for Fuses (Within)	1
3T20044D	JVC Safety Instruction Sheet (for U.S.A. only)	1
ee back cover	Siemens Plug	1
	41202-2 ee back cover ee back cover 64204-073 T20044D	41202-2 Envelope for Instruction Book & Warranty Card ee back cover ee back cover fuses (Within) 64204-073 Envelope for Fuses (Within) T20044D JVC Safety Instruction Sheet (for U.S.A. only)

11. Parts List with Specified Numbers for Designated Areas

Item No.	Description	U.S.A. & Canada	Australia	Europe	U.K.	West Germany	U.S. Military Market & Other Countries
1	Power	ETP1070-07JA	ETP1070-07EA	ETP1070-07EA	ETP1070-07EABS	ETP1070-07EA	ETP1070-07FA
	Transformer <u>A</u>	(U.S.A.) ETP1070-07CA (Canada)					
2	Power Switch 🛆	QSP1110-308	QSP1110-305	QSP1110-305	QSP1110-305BS	QSP1110-305	QSP1110-305
3	Main P.C. Board	ENH-004A	ENH-004B	ENH-004B	ENH-004CBS	ENH-004E	ENH-004D
4	Rear Panel	E24391-006	E24391-005	E24391-005	E24391-005	E24391-005	E24391-007
5	Voltage Selector <u>∧</u>	_	_	_	-	_	QSR0085-001U
6	Power Cord 🛆	QMP1200-200	QMP2560-244	QMP3900-200	QMP9017-008BS	QMP3900-200	QMP7600-250
7	Cord Stopper Δ	QHS3876-162	QHS3876-162	QHS3876-162	QHS3876-162BS	QHS3876-162	QHS3876-162
8	Fuse Holder Δ	_	_	_	_	_	QMG0301-003
9	Fuse (Within) 🛆	_	_	_	_	_	QMF51 A2-1R25L
							or
							QMF51 A2-2R5L
10	Fuse (Primary) 🛆	QMF61U1-2R5	QMF51A2-1R25L	QMF51A2-1R25L	QMF51A2-1R25LBS	QMF51A2-1R25L	QMF51 A2-1R25L
							or
							QMF51 A2-2R5L
11	Chassis Base	E10672-010	E10672-011	E10672-011	E10672-011	E10672-011	E10672-010
12	AC Outlet △	QMC0637-004	_	_	_		QMC0637-004
13	Switch Cover	_	E301869-002	E301869-002	E301869-002	E301869-002	E301869-002
14	Warranty Card	BT20048 (U.S.A.)	BT20029C	-	BT20013C	BT20057	BT20048
		or					(U.S. Military
		BT20025F(Canada)					Market)
15	Service	BT20046A	_	_	_	_	BT20046A (U.S.
	Information Card	(U.S.A.)					Military Market)
16	Siemens Plug	_	_	_	_	_	E04056
17	Information Sheet	_	_	_	_	BT20054-006A	_

 $\Delta: \mathsf{Safety} \; \mathsf{parts}$



